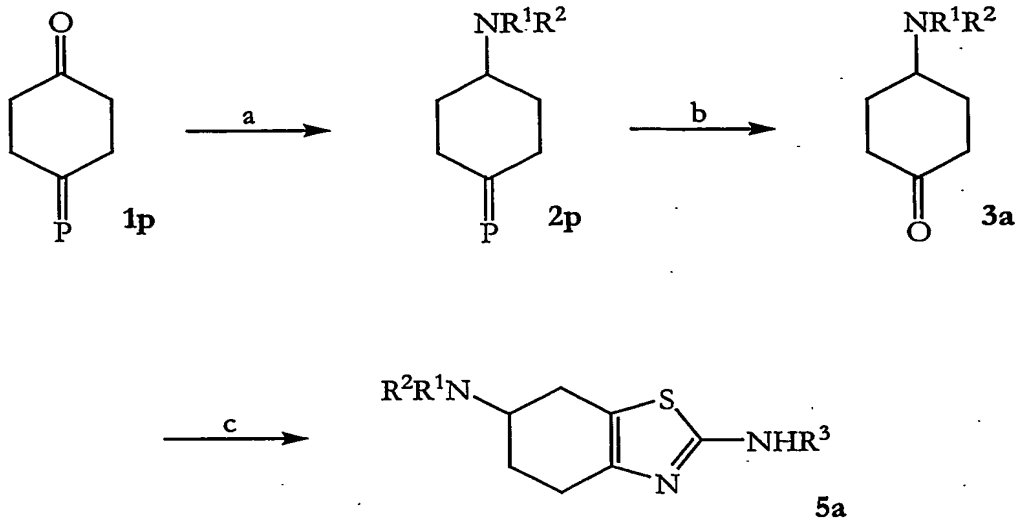
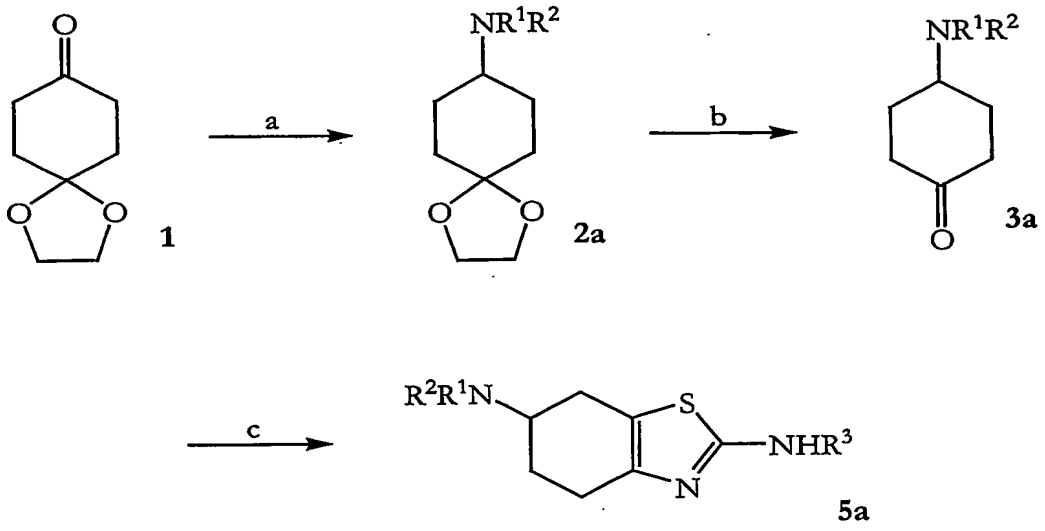


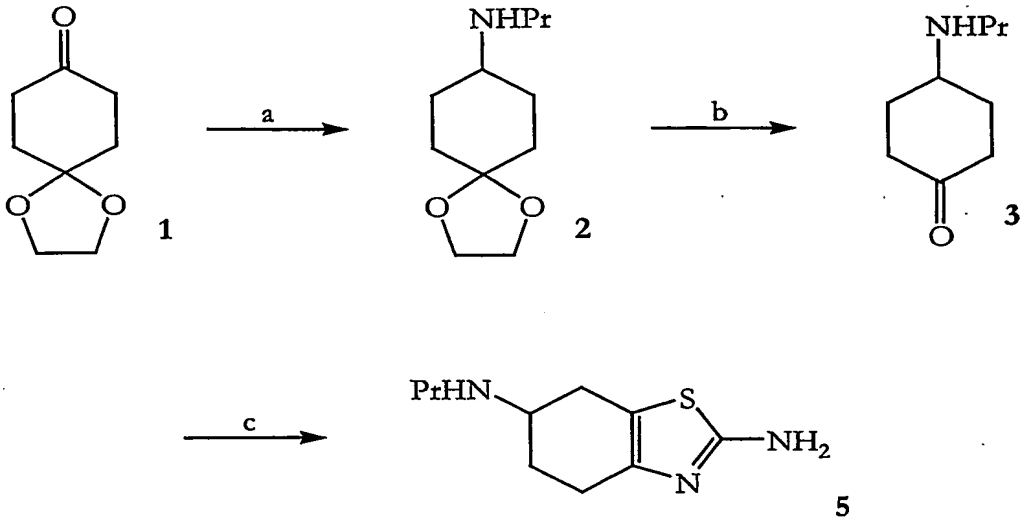
a: reductive amination with R^1R^2NH
b: deprotection
c: (i) iodine, $H_2N(C=S)NHR^3$; (ii) OH^-

Figure 1



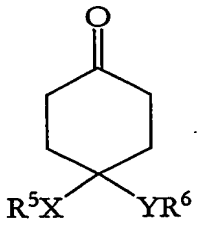
a: reductive amination with R^1R^2NH
b: deprotection
c: (i) iodine, $H_2N(C=S)NHR^3$; (ii) OH^-

Figure 2



a: *n*-propylamine, $NaCNBH_3$, MeOH/HCl
b: aq. HCl/THF
c: (i) iodine, $H_2N(C{=}S)NH_2$, ethanol, reflux; (ii) aq. NaOH

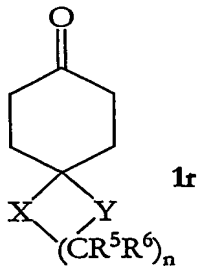
Figure 3



1q

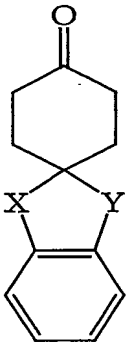
X, Y = O, S or Se
R^5, R^6 = CO-R^7, $Si(R^7)_3$, or an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group, which may include one or more heteroatoms N, O or S in its carbon skeleton
R^7 = hydrogen or alkyl

and/or XR^5, YR^6 = CN



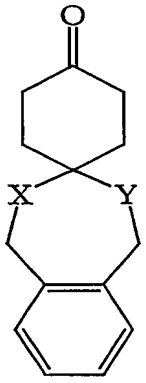
1r

X, Y = O, S, NR^7 or Se
n = 2 or 3
R^5, R^6 = hydrogen, halide, or an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group, which may include one or more heteroatoms N, O or S in its carbon skeleton
R^7 = hydrogen or alkyl



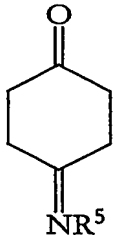
1s

X, Y = O, S or NR^6
R^6 = hydrogen or alkyl



1t

X, Y = O, S or NR^6
R^6 = hydrogen or alkyl



1u

$R^5 = N(R^6)_2$ or OR^6
R^6 = hydrogen, or an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group, which may include one or more heteroatoms N, O or S in its carbon skeleton

Figure 4